

REMARKS/ARGUMENTS

Support for the Amendment

The wording added to claim 1 at line 3 is taken from the specification at page 23, paragraph [0077] at lines 6-7, and the wording added to claim 1 at lines 5 and 6 is taken from the specification at page 17, paragraph [0056], lines 2-4. No new matter is presented by this amendment.

Claim Rejections -- 35 USC § 102

The amendment made herein to claim 1 further clarifies the distinction between the invention recited in Applicant's claims 1-8 over the disclosure of Nordquist et al. US 6,149,671, and Applicant submits once again that the invention is both novel and nonobvious over the prior art. Claim 1 of the present application is specific in its recitation of the irradiation of the organism with radiation at a wavelength that is absorbed preferentially by the neoplastic tissue relative to adjacent tissue, and that the absorption differential is achieved by use of a wavelength that is preferentially absorbed due to the spectral differences between the proteins and lipids of the neoplastic tissue and those of the adjacent normal tissue. The tissue selectivity in Nordquist et al. arises from factors that have nothing to do with proteins and lipids but instead by the presence of the chromophore that is injected, supposedly preferentially, into the neoplastic tissue, and by an immunoadjuvant that is injected into the tissue together with the chromophore. This is explicitly set forth in the last paragraph of column 5 and the first paragraph of column 6 of Nordquist et al. Neither the chromophore nor the immunoadjuvant are proteins or lipids. The wavelength of the radiation is "complementary to that of the chromophore" (column 6, line 5) and does not differentiate on the basis of spectral differences between the proteins and lipids of the neoplastic tissue and the proteins and lipids the surrounding tissue. Even if exogenous substances such as a chromophore and an immunoadjuvant are present, any person skilled in interpreting and evaluating absorption spectra of tissue will be able to differentiate between the portions of the spectra corresponding to exogenous substances in the tissue and those corresponding to endogenous substances. Applicant's claimed method and the method of

Nordquist et al. are therefore completely distinct, and Applicant's method neither encompasses nor is suggested by that of Nordquist et al.

The examiner has advised that if Applicant's claims contained a requirement that the absorption characteristics be limited to endogenous elements, the prior art of Mills, Harte et al., and Spertell would apply. Claim 1 as amended indeed limits the absorption characteristics to endogenous elements, but also to non-ionizing radiation. Of the Mills, Harte et al., and Spertell references, Mills alone recites a method for selective damage to neoplastic tissue by irradiation, but the radiation is performed at the Mossbauer absorption frequency. Mossbauer absorption, as Mills itself explains (see column 1, lines 55 et seq.), is the resonant absorption of gamma rays by nuclei. Gamma rays are rays of extremely short wavelength and intensely high energy, and are ionizing as a result. Applicant's invention, as amended, is limited to non-ionizing radiation, which only occurs at much longer wavelengths, and the difference between the two is great enough that there is no suggestion that one would be an obvious replacement or substitute for the other. The Harte et al. and Spertell disclosures are even further removed, since neither utilizes any feature of the radiation itself as a means of selective absorption. Harte et al. is a disclosure of depilation by use of light energy at a frequency that is concentrated into a flexible fiber small enough to enter the region of the follicle. Localization of the absorption in the Harte et al. disclosure is achieved by the placement of the fiber. The Spertell patent is a disclosure of the use of microwave energy to destroy subcutaneous histological features in which the localization of the effect of the microwave energy to the histological features is achieved by controlling the depth of the penetration of the microwave energy. Neither Harte et al. nor Spertell differentiate between tissues on the basis of anything in the tissues themselves, endogenous or otherwise -- they each achieve selectivity in absorption simply by closely confining the radiation to narrowly delineated regions of the host. Thus, for different but distinct reasons, neither of these three references discloses or suggests the mode of tissue differentiation that Applicant is presently claiming.

CONCLUSION

With the present amendment and the explanations set forth above, Applicant submits that claims 1-8 meet all requirements of 35 USC and are in condition for allowance. Reconsideration of the application is therefore respectfully requested. Should any matters remain that can be resolved by a conference with Applicant's attorney, the examiner is encouraged to telephone the undersigned at 415-576-0200.

Respectfully submitted,



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